

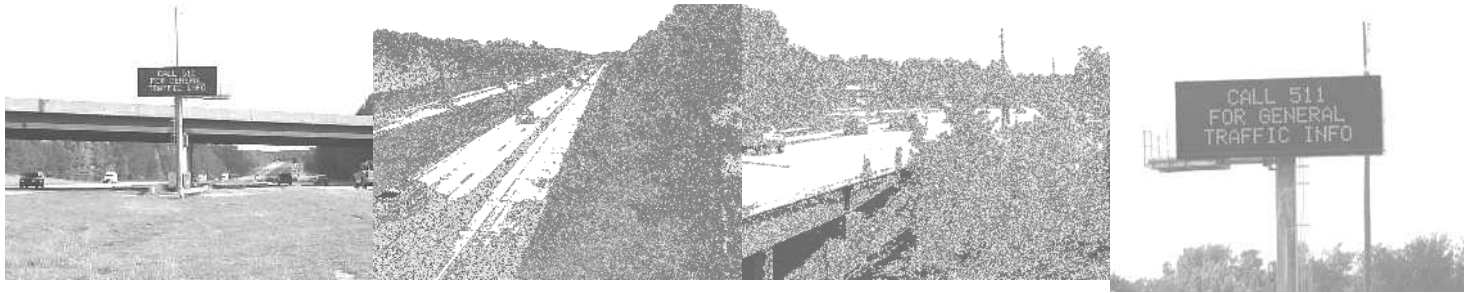
CLAYTON BYPASS and ITS TECHNOLOGY

**Wendi Johnson
Division 4 Construction Engineer**

**JoAnn Oerter
State ITS Travel Information Engineer**

**Amanda Perry
Information Communication Specialist**





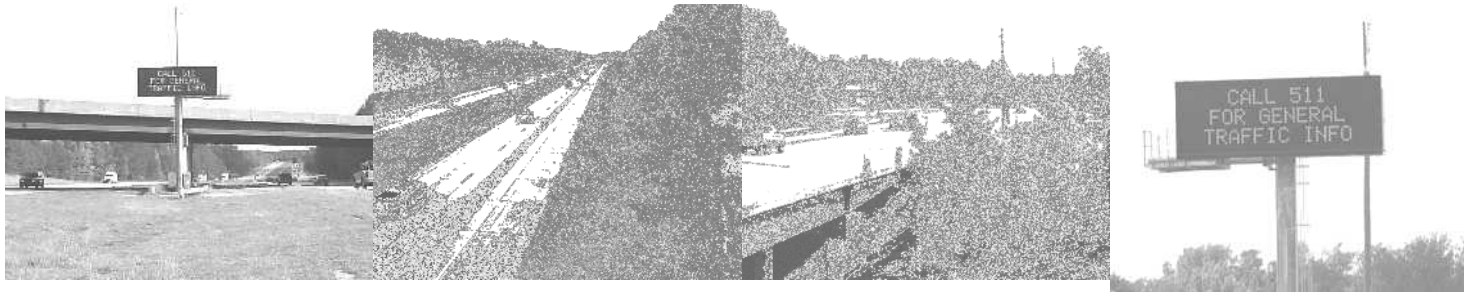
WRAL Video “Bypass will speed trip east of Raleigh on U.S. 70, I-40”





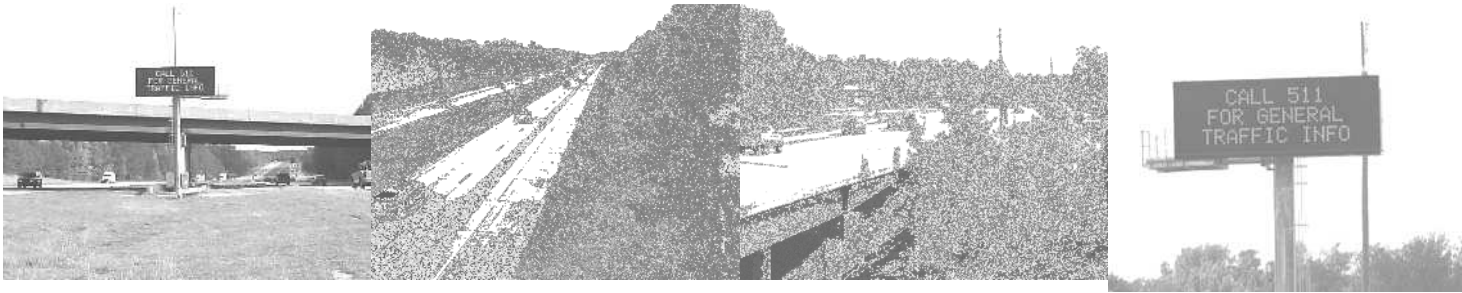
- 10.7mile
- From I-40 to US70/US 70 Bus. split in Johnston County
- Interchange with I-40 on Johnston / Wake county line - the Divisions 4 and 5 line.





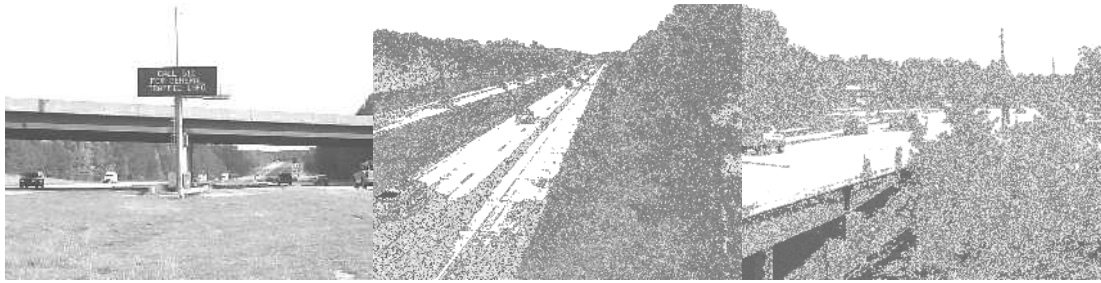
- Division 4 administering the Construction of the project
- Main congestion concerns fall on Division 5 to manage.



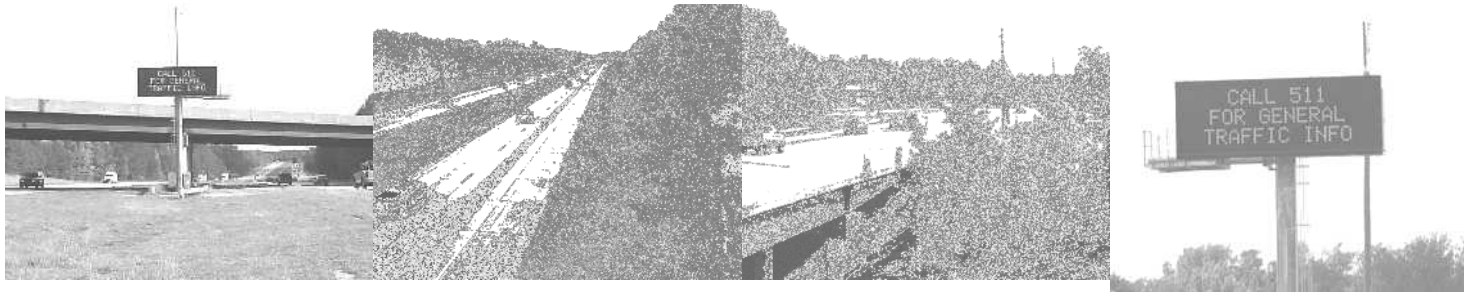


Project Timeline

- Design
 - Draft EIS – 1994
 - Final EIS – 1998
 - Interchange Justification Report – June 2005
- Construction
 - Began - July 2005
 - Original contract completion – June 2009
 - Open to traffic - June 2008

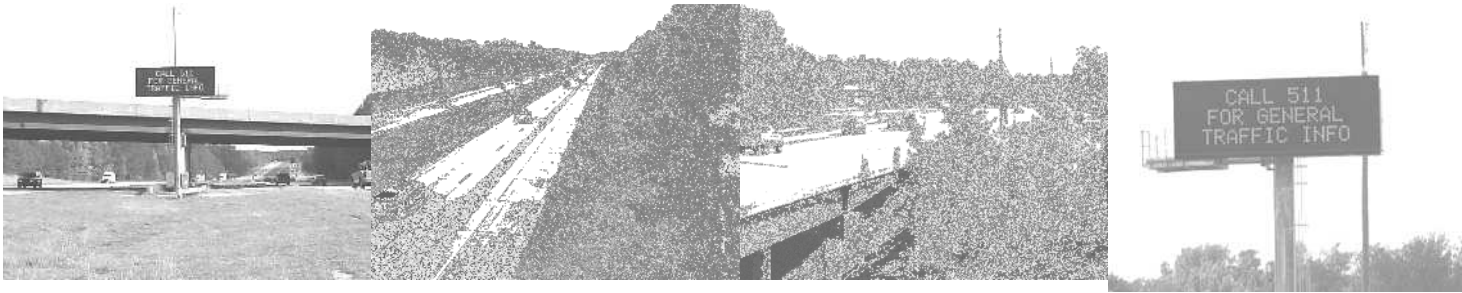


So what about 40?



Design Phase

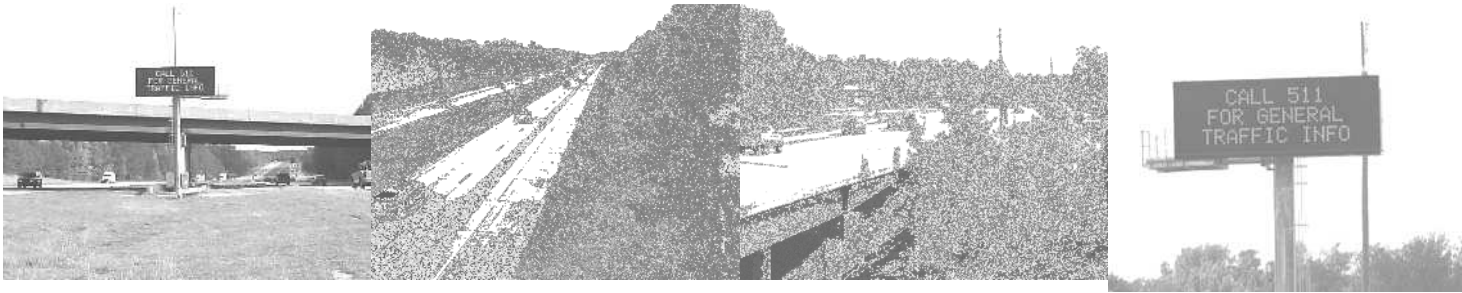
- build out year - level of service on I-40 an F for the peak hours
- Routine assumption - in order to fix - I-40 would need to be widened
- Funding was not available
- An alternative solution or lower cost was not initially considered / apparent.





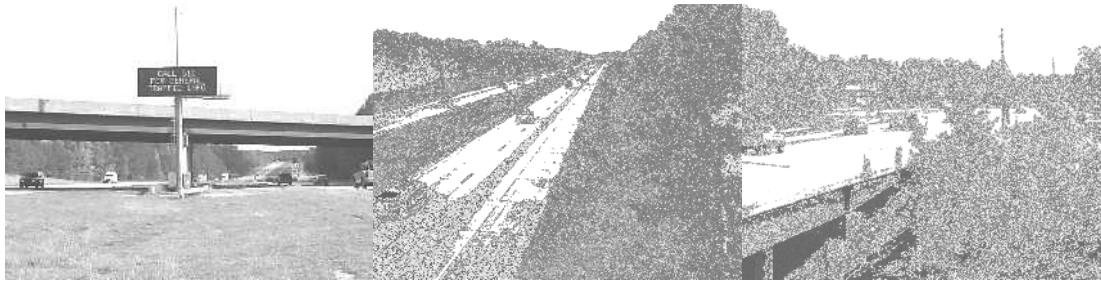
- Interim solution needed to mitigate possible congestion
 - short term
 - cost effective measures
 - until a long-term solution can be delivered





- A meeting was held in August 2007 with representatives from :
 - Traffic Engineering
 - Congestion Management
 - Intelligent Transportation Systems
 - Traffic Safety Unit
 - ITS Operations Unit
 - Work Zone Traffic Control Unit
 - Construction Unit
 - Division 5 and Division 4
 - Roadway Design





- Three strategies were defined to help mitigate the impact of the Clayton Bypass opening on the I-40 congestion.
 - Deploy ITS devices with real time travel information for the area.
 - A proactive public education and information plan.
 - Deploy IMAP along I-40, US 70 Bypass, and US 70.

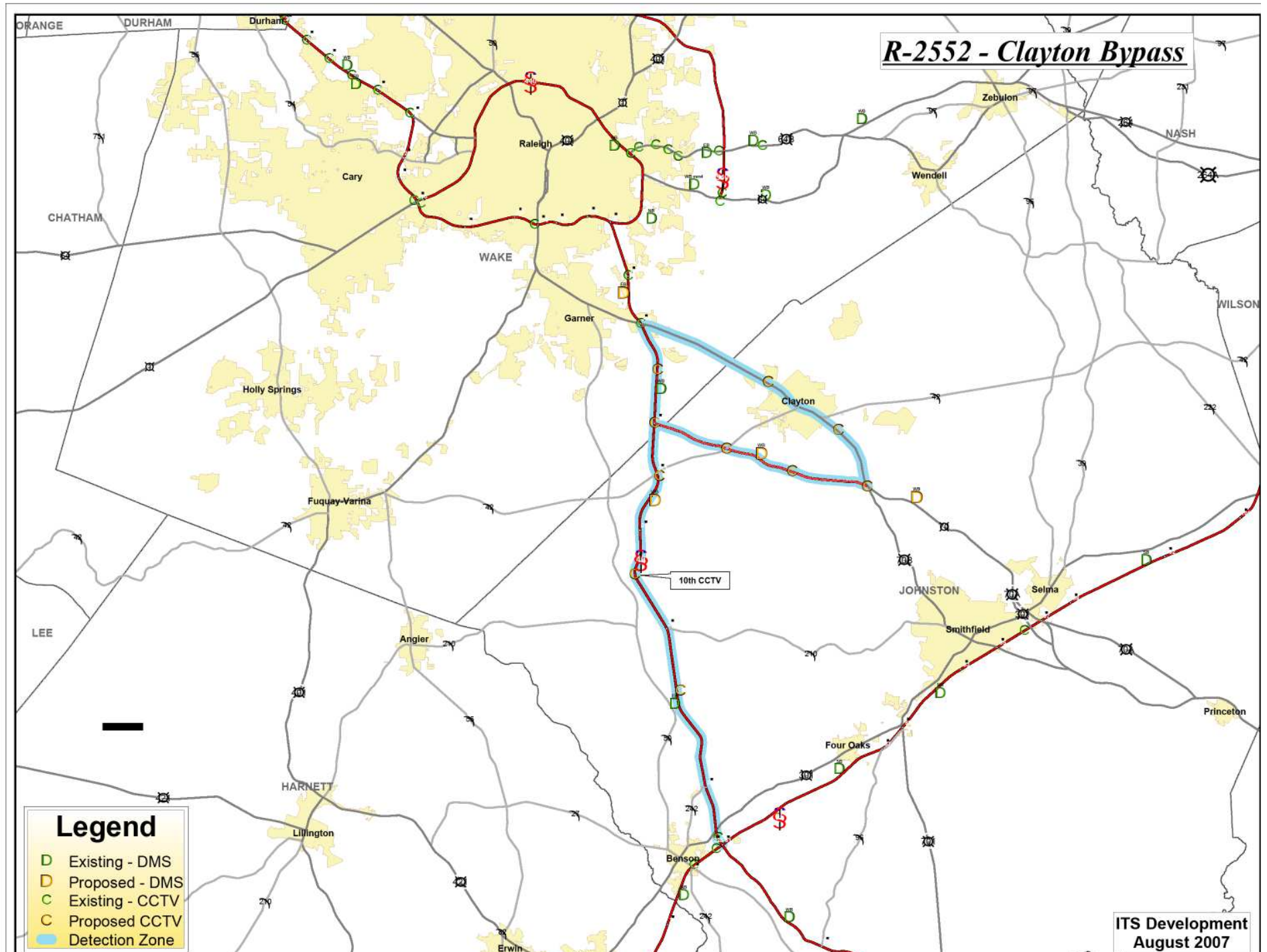




ITS Plan

- 4 DMS's
- 11 Cameras
- Speed detection sensors
- Fully automated real time traffic information

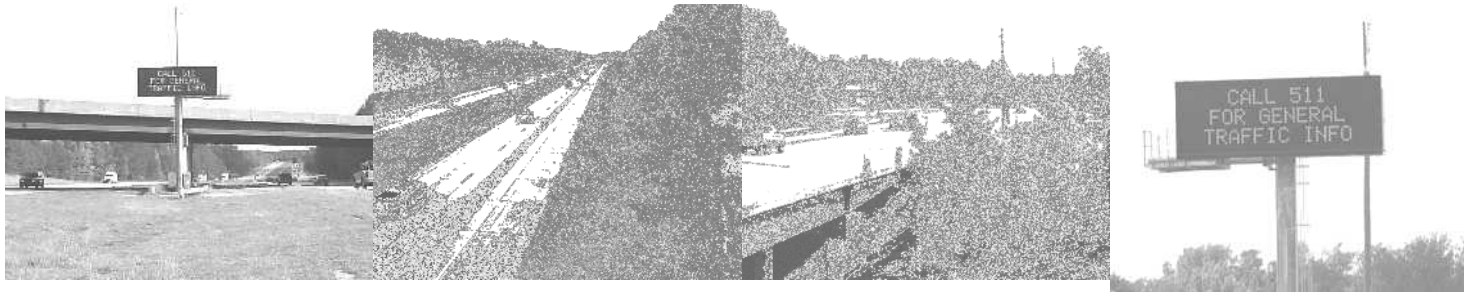
R-2552 - Clayton Bypass



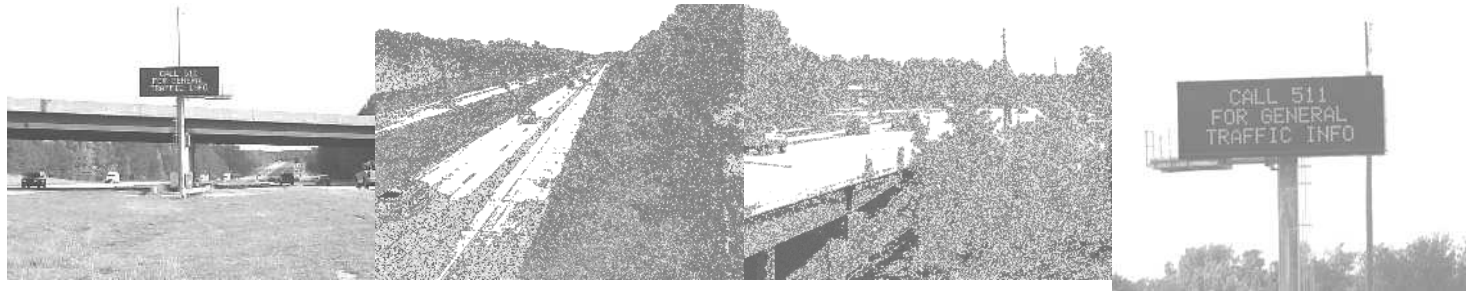


- ITS was not programmed until 2010.
- Estimated cost of ITS infrastructure is \$1.5 million.
- TIP Amendment in the October 2007 approved by BOT.





- 2 separate Purchase Order Contracts let at Division level for DMS's and Cameras.
- In place TMC contact for Sensors.
- Automation was an SA to the DMS contract.
- When Clayton Bypass open on June 9th, 2008 system fully operation and fully automated.



NCDOT Automated Travel Time System

NC Travel Time

NCDOT
North Carolina Department of Transportation

Status

View current data for signs in the system.

Schedule

Set times for plans to run.

Configuration

Sensors

Set top speed allowed for calculations.

Sign Assignment

Tie a sign to a sensor.

Road Segments

Manage lengths of road, defined by sensors.

Routes

Manage routes, defined by lists of road segments.

Plans

Set the routes displayed on a sign.

Settings

Adjust the parameters which control the service.

Abbreviations

Edit entries in the abbreviations dictionary.

Server

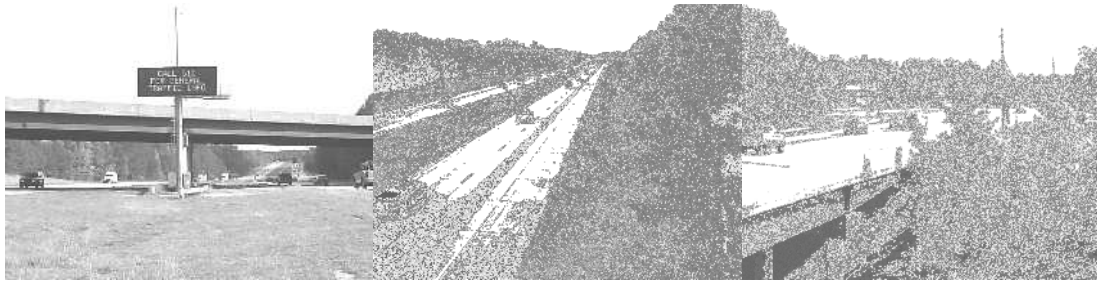
192.168.2.20

Port

51001

Connect

Connected 8/18/2008 1:59:21 PM.



Sensor Data

NC Travel Time

NC DOT

North Carolina Department of Transportation

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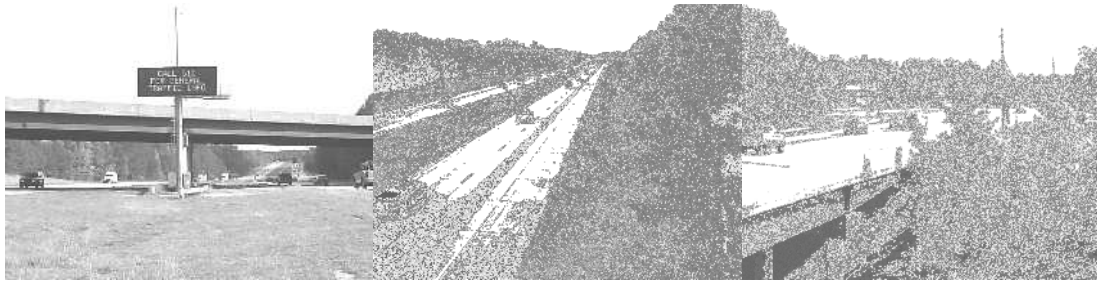
51001

Connect

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Save

Cancel



Road Segment Data

NC Travel Time

NC DOT
North Carolina Department of Transportation

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Sign Assignment Tie a sign to a sensor.

Road Segments Manage lengths of road, defined by sensors.

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Plans Set the routes displayed on a sign.

Settings Adjust the parameters which control the service.

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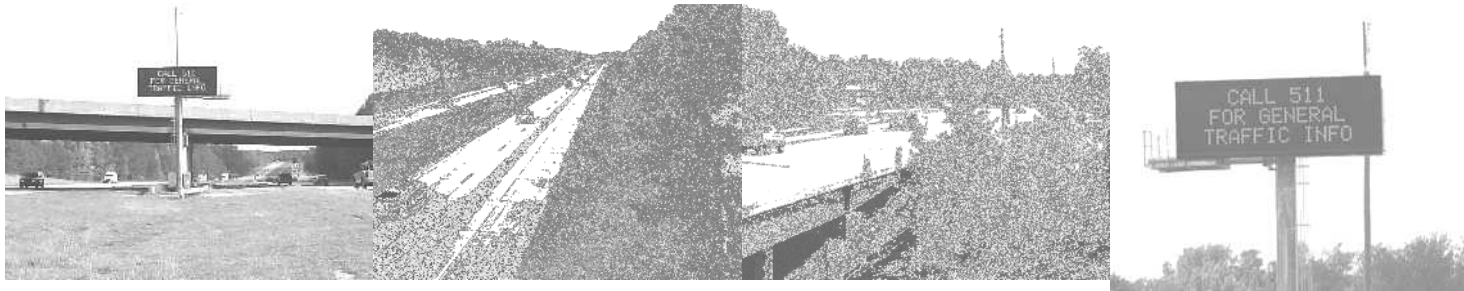
Server 192.168.2.20 Port 51001 Connect

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Add Delete

Save Cancel

ROUTES



Routes
NC Travel Time

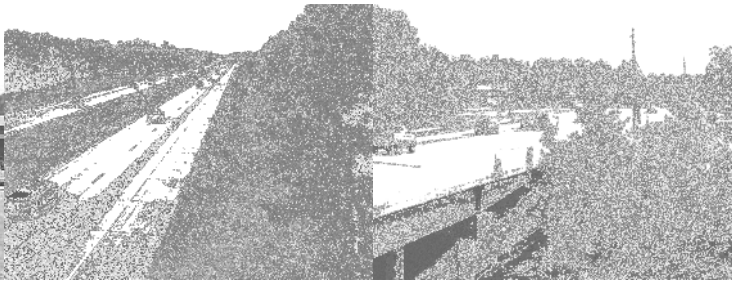
 **NC DOT**
North Carolina Department of Transportation

Status	View current data for signs in the system.
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Server Port

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PLANS



NC Travel Time

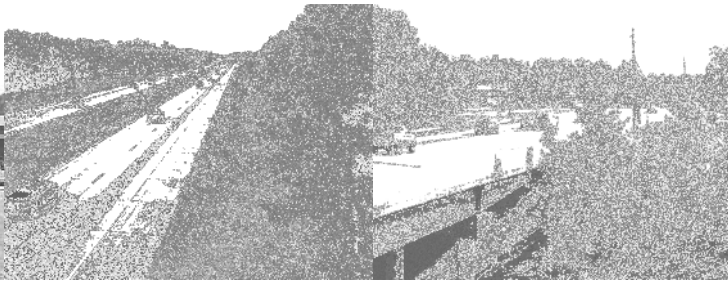
 **NC DOT**
North Carolina Department of Transportation

Status	View current data for signs in the system.	Delete
Schedule	Set times for plans to run.	
Configuration		
Sensors	Set top speed allowed for calculations.	
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SCHEDULES



Schedule

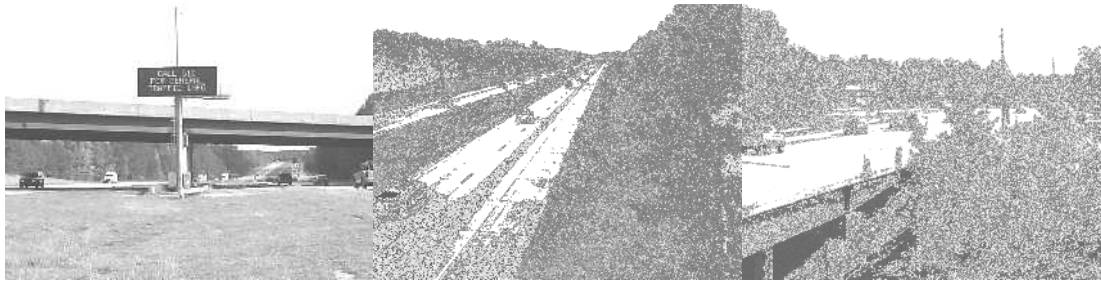
NC Travel Time

 **NC DOT**
North Carolina Department of Transportation

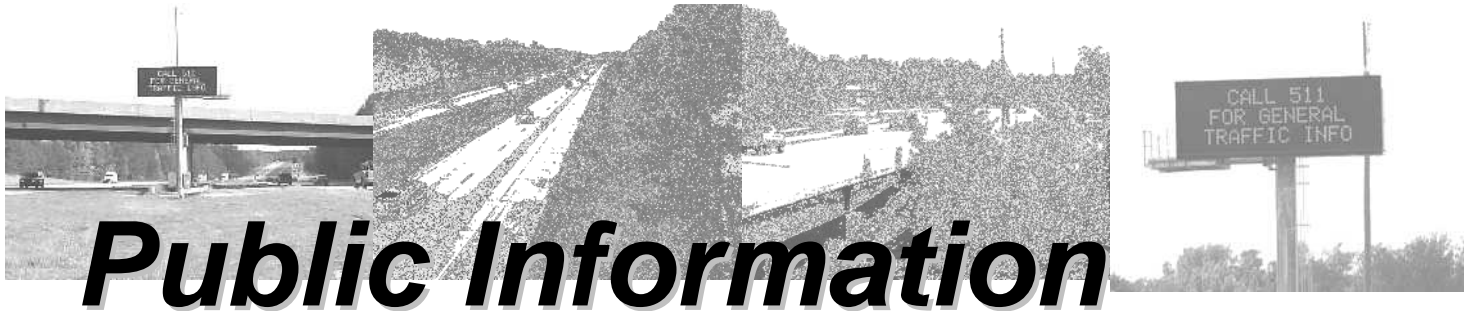
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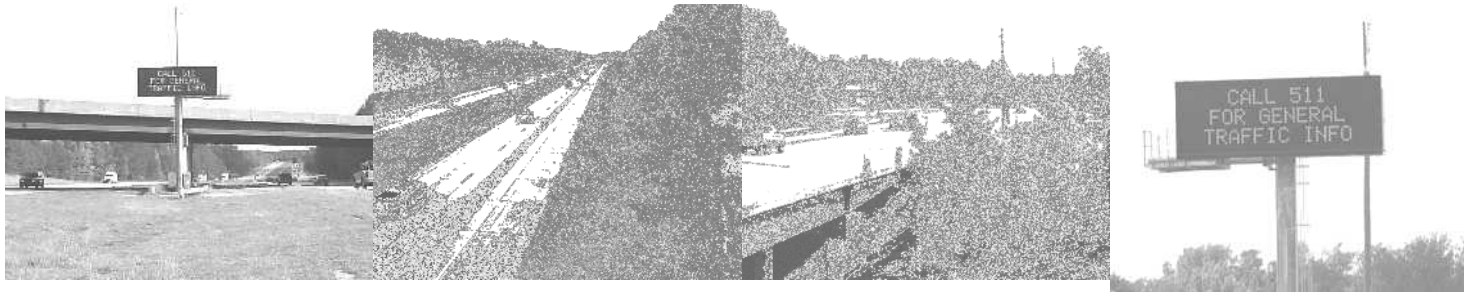
NH TO 40/EXIT 306
 US 70 14-18
 US 70 BUS 26-30



Public Information

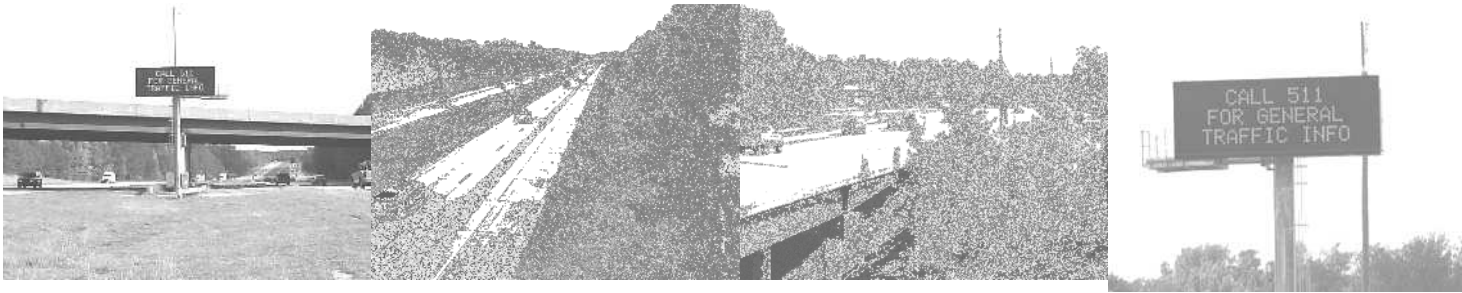
- Pre-Construction Flyers
- Pre-Construction Public Meeting
- E-mails to public on project updates
- Project Website
- Routine press releases for traffic shifts and lane closures
- Target local amphitheater for patrons during major traffic shift
- Major PI planned for opening including project tour for media





So what happen on I-40 the 1st commuter morning?





WRAL Video “New road bypasses Clayton, but I-40 remains an issue”





- Last negative story on congestion that has run in the local media.
- I-40 still has problems.
- Using technology and public information for an interim solution to help mitigate congestion.





Questions?